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STRUCTURE FILE UPDATES: 11 MAY 2005 HIGHEST RN 850303-40-1 DICTIONARY FILE UPDATES: 11 MAY 2005 HIGHEST RN 850303-40-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide can tot 16

L6 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN 384832-65-9 REGISTRY

ED Entered STN: 20 Jan 2002

CN 2H-Indol-2-one, 3-[(3-fluoro-4-methoxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

MF C16 H12 F N O2

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 3 REFERENCES IN FILE CA (1907 TO DATE)
- 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:207829

REFERENCE 2: 138:131086

REFERENCE 3: 136:64633

L6 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN 328106-29-2 REGISTRY

ED Entered STN: 20 Mar 2001

CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN MAE 87

MF C15 H11 N O3

SR Chemical Library

LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:388594

REFERENCE 2: 139:207829

REFERENCE 3: 138:131086

REFERENCE 4: 136:64633

L6 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN **163655-37-6** REGISTRY

ED Entered STN: 08 Jun 1995

CN 2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-dihydro-(9CI) (CA INDEX NAME)

FS 3D CONCORD

MF C21 H18 N2 O

SR CA

LC STN Files: CA, CAPLUS, CHEMCATS, PROUSDDR, TOXCENTER, USPATFULL

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:207829

REFERENCE 2: 138:131086

REFERENCE 3: 136:64633

REFERENCE 4: 122:316911

=> fil uspatall

FILE 'USPATFULL' ENTERED AT 12:20:15 ON 12 MAY 2005
CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 12:20:15 ON 12 MAY 2005

CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr tot 19

L9 ANSWER 1 OF 3 USPATFULL on STN

AN 2004:315288 USPATFULL

TI Kinase inhibitors and the use thereof

IN Chirchin, Vladimir, Frankkfurt am Main, GERMANY, FEDERAL REPUBLIC OF

Athanassios, Giannis, Leipzig, GERMANY, FEDERAL REPUBLIC OF

Mazitschek, Ralph, Boston, MA, UNITED STATES

Sleemann, Jonathan, Bruchsal, GERMANY, FEDERAL REPUBLIC OF

PI US 2004248965 A1 20041209

AI US 2004-483687 A1 20040706 (10)

WO 2002-EP7778 20020712

PRAI DE 2001-134196 20010713

DT Utility

FS APPLICATION

LREP Friedrich Kueffner, Suite 910, 317 Madison Avenue, New York, NY, 10017

CLMN Number of Claims: 10

ECL Exemplary Claim: 1

DRWN 10 Drawing Page(s)

LN.CNT 598

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to protein kinase inhibitors and to the

use thereof for the treatment of diseases induced by pathological signal transduction cascades.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 163655-37-6P 328106-29-2P 384832-65-9P

(indolinone derivative protein kinase inhibitor preparation and therapeutic

use)

RN 163655-37-6 USPATFULL

CN 2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-dihydro-(9CI) (CA INDEX NAME)

RN 328106-29-2 USPATFULL

CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

RN 384832-65-9 USPATFULL

CN 2H-Indol-2-one, 3-[(3-fluoro-4-methoxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

L9 ANSWER 2 OF 3 USPATFULL on STN

AN 2003:257244 USPATFULL

TI Methods of extending corneal graft survival

IN DeVries, Gerald W., Laguna Hills, CA, UNITED STATES

PI US 2003180294 A1 20030925

AI US 2002-81126 A1

DT Utility

FS APPLICATION

LREP CATHRYN CAMPBELL, CAMPBELL & FLORES LLP, 7th Floor, 4370 La Jolla

20020222 (10)

Village Drive, San Diego, CA, 92122

CLMN Number of Claims: 38 ECL Exemplary Claim: 1 DRWN 5 Drawing Page(s)

LN.CNT 2079

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides a method of extending corneal graft survival following corneal transplantation in a patient by administering to the patient an effective amount of a pharmaceutical composition containing a vascular endothelial growth factor receptor-3 (VEGFR-3) inhibitor, whereby lymphangiogenesis is suppressed in the cornea of the patient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 163655-37-6P 328106-29-2P 384832-65-9P

(preparation of indolin-2-ones as VEGFR-3 inhibitors to increase corneal graft survival)

RN 163655-37-6 USPATFULL

CN 2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-dihydro-(9CI) (CA INDEX NAME)

RN 328106-29-2 USPATFULL

CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

RN 384832-65-9 USPATFULL

CN 2H-Indol-2-one, 3-[(3-fluoro-4-methoxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

```
L9
     ANSWER 3 OF 3 USPATFULL on STN
AN
       97:37980 USPATFULL
ΤI
       Bulk dyeing of plastics
       Roschger, Peter, Koln, Germany, Federal Republic of
IN
PA
       Bayer Aktiengesellschaft, Leverkusen, Germany, Federal Republic of
       (non-U.S. corporation)
PΙ
       US 5626633
                               19970506
       US 1995-566317
                               19951201 (8)
AΤ
RLI
       Continuation of Ser. No. US 1994-263222, filed on 21 Jun 1994, now
       abandoned
PRAI
       DE 1993-4321420
                           19930628
       DE 1993-4340560
                           19931129
DT
       Utility
FS
       Granted.
       Primary Examiner: Lieberman, Paul; Assistant Examiner: Dusheck, Caroline
EXNAM
       Sprung Horn Kramer & Woods
LREP
       Number of Claims: 7
CLMN
       Exemplary Claim: 1
ECL
DRWN
       No Drawings
LN.CNT 969
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       Dyestuffs of the formula (I) ##STR1## wherein n denotes 1 or 2,
AB
       T denotes O or N--R.sub.O, wherein
       R.sub.0 denotes H, alkyl, aryl or acyl or, together with R.sub.2 or
       R.sub.3, forms a 5- to 7-membered ring,
       R.sub.1 if n=1, denotes aryl, hetaryl or heterocyclylidenemethyl and
       if n=2, denotes a direct bond or arylene and
       R.sub.2 and R.sub.3 are independent or cyclic radicals having the
       meanings given in the description,
       are employed for bulk dyeing of plastics, preferably thermoplastics.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
   163655-37-6P
```

2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-

(dyes for bulk dyeing of plastics)

dihydro- (9CI) (CA INDEX NAME)

163655-37-6 USPATFULL

RN

CN

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FILE COVERS 1907 - 12 May 2005 VOL 142 ISS 20 FILE LAST UPDATED: 11 May 2005 (20050511/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> => d l14 all hitstr tot

- L14 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 2004:717219 HCAPLUS
- DN 141:388594
- ED Entered STN: 02 Sep 2004
- TI Local injection of receptor tyrosine kinase inhibitor MAE 87 reduces retinal neovascularization in mice
- AU Unsoeld, Anke S.; Junker, Bernd; Mazitschek, Ralph; Martin, Gottfried; Hansen, Lutz L.; Giannis, Athanassios; Agostini, Hansjuergen T.
- CS Department of Ophthalmology, University of Freiburg, Freiburg, Germany
- SO Molecular Vision (2004), 10, 468-475 CODEN: MVEPFB; ISSN: 1090-0535
 - URL: http://www.molvis.org/molvis/v10/a60/unsoeld.pdf
- PB Molecular Vision
- DT Journal; (online computer file)
- LA English

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CC 1-12 (Pharmacology)
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Purpose: Retinal neovascularization occurs under the influence of AB angiogenic factors like vascular endothelial growth factor (VEGF). signaling is enhanced by insulin-like growth factor-1 (IGF-1). In vitro, the oxoindolinone MAE 87 inhibits angiogenic signal transduction by blocking tyrosine kinase receptors including VEGF receptor 2 (VEGFR-2), IGF-1R, fibroblast GF-1R and epidermal GFR. We investigated the effect of MAE 87 in vivo using the mouse model for oxygen induced retinopathy. Methods: From postnatal day seven (P7) on, C57BL/6J mice were kept in a 75% oxygen environment for five days. On postnatal day 12 (P12) they received an intravitreal injection of MAE 87 in one eye and control substance in the fellow The animals were sacrificed by intracardial perfusion with fluorescein-dextran solution on P17. Retinal whole mounts were prepared and ischemic retinopathy was evaluated in 26 animals using a standardized retinopathy score. Results: After a single intravitreal injection of MAE 87 there were significantly less angioproliferative changes (blood vessel tufts, extra-retinal neovascularization, and blood vessel tortuosity) than in the fellow eye (p=0.007). The median retinopathy score (maximal 13) for the MAE 87 treated eyes was 6 (25th percentile: 5; 75th percentile: 7) and 8 for the control eyes (25th percentile: 5; 75th percentile: 10). Conclusions: The tyrosine kinase inhibitor MAE 87 may be a promising substance for local treatment of retinal neovascularization. Due to its ability to inhibit not only the VEGF but also the IGF-1 cascade, MAE 87 may prove especially valuable for the treatment of diabetic retinopathy.

ST MAE87 proliferation inhibition retina neovascularization mouse

IT Cell proliferation

(inhibition; single intravitreal injection of MAE 87 significantly reduced angioproliferative changes in mouse model of oxygen induced retinopathy)

IT Angiogenesis

(neovascularization, retinal; single intravitreal injection of MAE 87 significantly reduced angioproliferative changes in mouse model of oxygen induced retinopathy)

IT Angiogenesis

(neovascularization; single intravitreal injection of RTK inhibitor MAE 87 significantly reduced oxygen induced retinal neovascularization possibly by inhibiting VEGF, IGF-1 cascade in mouse model of oxygen induced retinopathy)

IT Eye, disease

(retina, neovascularization; single intravitreal injection of MAE 87 significantly reduced angioproliferative changes in mouse model of oxygen induced retinopathy)

IT Eye

(retina; single intravitreal injection of RTK inhibitor MAE 87 significantly reduced oxygen induced retinal neovascularization possibly by inhibiting VEGF, IGF-1 cascade in mouse model of oxygen induced retinopathy)

IT Eye, disease

(retinopathy; single intravitreal injection of RTK inhibitor MAE 87 significantly reduced oxygen induced retinal neovascularization possibly by inhibiting VEGF, IGF-1 cascade in mouse model of oxygen induced retinopathy)

IT 67763-96-6, Insulin-like growth factor-1 127464-60-2, Vascular endothelial growth factor

RL: BSU (Biological study, unclassified); BIOL (Biological study) (single intravitreal injection of RTK inhibitor MAE 87 significantly reduced oxygen induced retinal

```
neovascularization possibly by inhibiting VEGF, IGF-1 cascade in mouse
        model of oxygen induced retinopathy)
IT
     328106-29-2, MAE 87
                           340830-03-7, Receptor
     tyrosine kinase
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (single intravitreal injection of RTK inhibitor MAR
        87 significantly reduced oxygen induced retinal
        neovascularization possibly by inhibiting VEGF, IGF-1 cascade in mouse
        model of oxygen induced retinopathy)
RE.CNT
        47
              THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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328106-29-2, MAE 87

```
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (single intravitreal injection of RTK inhibitor MAE
        87 significantly reduced oxygen induced retinal neovascularization possibly by inhibiting VEGF, IGF-1 cascade in mouse model of oxygen induced retinopathy)

RN 328106-29-2 HCAPLUS
CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)
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L14
    ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
ΑN
     2003:696673 HCAPLUS
DN
     139:207829
ED
     Entered STN: 05 Sep 2003
    Methods of extending corneal graft survival using VEGFR-3 inhibitors which
TI
     inhibit lymphangiogenesis
IN
    De Vries, Gerald W.
PA
    Allergan, Inc., USA
SO
     PCT Int. Appl., 84 pp.
    CODEN: PIXXD2
DT
     Patent
LA
    English
IC
     ICM A61K
CC
     1-12 (Pharmacology)
     Section cross-reference(s): 15
FAN.CNT 1
    PATENT NO.
                         KIND
                                DATE
                                            APPLICATION NO.
                                                                   DATE
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PΙ
    WO 2003072029
                         A2
                                20030904
                                            WO 2003-US5125
                                                                   20030220 <--
    WO 2003072029
                         Α3
                                20040401
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
    US 2003180294
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                                20030925
                                          US 2002-81126
                                                                   20020222 <--
    CA 2476994
                          AA
                                20030904
                                            CA 2003-2476994
                                                                   20030220 <--
    EP 1476187
                          A2
                                20041117
                                            EP 2003-711158
                                                                   20030220 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
PRAI US 2002-81126
                          Α
                                20020222
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    WO 2003-US5125
                          W
                                20030220
CLASS
PATENT NO.
                CLASS PATENT FAMILY CLASSIFICATION CODES
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WO 2003072029
                 ICM
                        A61K
 US 2003180294
                 NCL
                        424/143.100; 514/044.000
                        A61K031/00; A61K031/404; A61K031/404+M; A61K045/06 <--
                 ECLA
     The present invention provides a method of extending corneal graft
AΒ
     survival following corneal transplantation in a patient by administering
     to the patient an effective amount of a pharmaceutical composition containing a
     vascular endothelial growth factor receptor-3 (VEGFR-3) inhibitor, whereby
     lymphangiogenesis is suppressed in the cornea of the patient. More
     specifically, the VEGFR-3 inhibitor is a dominant neg. VEGFR-3 receptor, a
     nucleic acid encoding a dominant neg. VEGFR-3 receptor, a VEGFR-3 kinase
     inhibitor, an ATP analog, a VEGFR-3 binding mol., or a sequence-specific
     RNase.
ST
     corneal graft survival VEGFR3 inhibitor lymphangiogenesis suppression
IT
     Protein motifs
        (VEGFR-3 extracellular domain as inhibitor; methods of extending
        corneal graft survival using VEGFR-3 inhibitors to inhibit
        lymphangiogenesis)
IT
     Enzyme functional sites
        (active, inhibitor binds to the VEGFR-3 catalytic domain; methods of
        extending corneal graft survival using VEGFR-3 inhibitors to inhibit
        lymphangiogenesis)
IT
     Angiogenesis inhibitors
     Immunosuppressants
        (addnl. therapeutic agent; methods of extending corneal graft survival
        using VEGFR-3 inhibitors to inhibit lymphangiogenesis)
     Antibodies and Immunoglobulins
IT
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (anti-VEGFR-3; methods of extending corneal graft survival using
        VEGFR-3 inhibitors to inhibit lymphangiogenesis)
     Antisense nucleic acids
IT
     Ribozymes
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (as inhibitor; methods of extending corneal graft survival using
        VEGFR-3 inhibitors to inhibit lymphangiogenesis)
IT
     Eye
        (cornea, transplant; methods of extending corneal graft survival using
        VEGFR-3 inhibitors to inhibit lymphangiogenesis)
IT
     Transplant and Transplantation
        (cornea; methods of extending corneal graft survival using VEGFR-3
        inhibitors to inhibit lymphangiogenesis)
IT
     Nucleic acids
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (encoding VEGFR-3 dominant neg. receptor; methods of extending corneal
        graft survival using VEGFR-3 inhibitors to inhibit lymphangiogenesis)
IT
     Lymphatic system
        (lymph vessel, lymphangiogenesis; methods of extending corneal graft
        survival using VEGFR-3 inhibitors to inhibit lymphangiogenesis)
IT
     Angiogenesis
        (lymphangiogenesis; methods of extending corneal graft survival using
        VEGFR-3 inhibitors to inhibit lymphangiogenesis)
IT
     Human
        (methods of extending corneal graft survival using VEGFR-3 inhibitors
        to inhibit lymphangiogenesis)
     Antibodies and Immunoglobulins
IT
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
```

```
(monoclonal, anti-VEGFR-3; methods of extending corneal graft survival
        using VEGFR-3 inhibitors to inhibit lymphangiogenesis)
    Vascular endothelial growth factor receptors
IT
    RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (type VEGFR-3, dominant neg. VEGFR-3 receptor; methods of extending
        corneal graft survival using VEGFR-3 inhibitors to inhibit
        lymphangiogenesis)
     Vascular endothelial growth factor receptors
IT
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (type VEGFR-3; methods of extending corneal graft survival using
        VEGFR-3 inhibitors to inhibit lymphangiogenesis)
     144638-77-7, VEGFR-3 kinase
TT
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (inhibitor; methods of extending corneal graft survival using VEGFR-3
        inhibitors to inhibit lymphangiogenesis)
     56-65-5D, 5'-ATP, analogs, biological studies
IT
    RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (methods of extending corneal graft survival using VEGFR-3 inhibitors
        to inhibit lymphangiogenesis)
     163655-37-6P 328106-29-2P 384832-65-9P
IT
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
        (preparation of indolin-2-ones as VEGFR-3 inhibitors to increase corneal
        graft survival)
IT
     59-48-3, Indolin-2-one
                              95-01-2, 2,4-Dihydroxy benzaldehyde
                                                                    351-54-2,
     3-Fluoro-4-methoxybenzaldehyde 1971-81-9
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (preparation of indolin-2-ones as VEGFR-3 inhibitors to increase corneal
        graft survival)
IT
     9001-99-4, Ribonuclease
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (sequence specific RNase as inhibitor; methods of extending corneal
        graft survival using VEGFR-3 inhibitors to inhibit lymphangiogenesis)
IT
```

163655-37-6P 328106-29-2P 384832-65-9P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

(preparation of indolin-2-ones as VEGFR-3 inhibitors to increase corneal graft survival)

163655-37-6 HCAPLUS RN

(Uses)

2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-CN dihydro- (9CI) (CA INDEX NAME)

RN 328106-29-2 HCAPLUS

CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

RN 384832-65-9 HCAPLUS

CN 2H-Indol-2-one, 3-[(3-fluoro-4-methoxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

L14 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:76607 HCAPLUS

DN 138:131086

ED Entered STN: 31 Jan 2003

TI Indolin-2-one derivative protein kinase inhibitors, their preparation, and their therapeutic use

IN Chirchin, Vladimir; Athanassios, Giannis; Mazitschek, Ralph; Sleeman, Jonathan

PA Forschungszentrum Karlsruhe Gmbh, Germany

SO PCT Int. Appl., 45 pp. CODEN: PIXXD2

DT Patent

LA German

CC

IC ICM A61K031-404 ICS C07D209-34; A61P035-00

1-6 (Pharmacology)

jan delaval - 12 may 2005

Section cross-reference(s): 27

GI

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FAN.CNT 1
    PATENT NO.
                                          APPLICATION NO.
                       KIND
                              DATE
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    ______
                              20030130 WO 2002-EP7778
PΙ
    WO 2003007943
                        A1
                                                                20020712
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            CO, CR, CU, CZ, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM,
            HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
            LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,
            PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
            UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ,
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
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            PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
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    DE 10134196
                              20030424
                                         DE 2001-10134196
                                                                20010713
    DE 20122287
                        U1
                              20050421
                                        DE 2001-20122287
    EP 1406615
                        A1
                              20040414
                                        EP 2002-762351
                                                                20020712
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
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    JP 2004536127
                        T2
                              20041202
                                        JP 2003-513551
                                                                20020712
    US 2004248965
                         A1
                              20041209
                                          US 2004-483687
                                                                20040706
PRAI DE 2001-10134196
                         Α
                              20010713
    WO 2002-EP7778
                         W
                              20020712
CLASS
                CLASS PATENT FAMILY CLASSIFICATION CODES
PATENT NO.
                ____
                      _____
WO 2003007943.
                ICM
                      A61K031-404
                ICS
                       C07D209-34; A61P035-00
WO 2003007943
                ECLA
                       C07D209/34
DE 10134196
                ECLA
                       A61K031/404; C07D209/34
                      4C086/AA01; 4C086/AA02; 4C086/BC13; 4C086/MA01;
JP 2004536127
                FTERM
                       4C086/MA04; 4C086/NA14; 4C086/ZA36; 4C086/ZB21;
                       4C086/ZB26; 4C086/ZB39; 4C086/ZC20; 4C086/ZC42;
                       4C204/BB01; 4C204/CB03; 4C204/DB13; 4C204/DB15;
                       4C204/DB30; 4C204/EB03; 4C204/FB01; 4C204/GB01
US 2004248965
                       514/418.000; 548/484.000
                NCL
                       A61K031/404; C07D209/34
                ECLA
```

Ι

III

AB The invention discloses protein kinase inhibitors I, II, and III (preparation of these compds. is described) and the use thereof for treating diseases that are triggered by pathol. signal transduction cascades, e.g. cancer.

ST indolinone deriv prepn protein kinase inhibitor therapeutic; antitumor indolinone deriv protein kinase inhibitor; signal transduction disease therapeutic indolinone deriv protein kinase inhibitor

IT Animal cell line

(1AS; indolinone derivative protein kinase inhibitor preparation and therapeutic

use)

IT Animal cell line

(HUVEC, endothelial cell proliferation; indolinone derivative protein kinase inhibitor preparation and therapeutic use)

IT Angiogenesis

(and lymphangiogenesis; indolinone derivative protein kinase inhibitor preparation and therapeutic use)

IT Phosphorylation, biological

(autophosphorylation; indolinone derivative protein kinase inhibitor preparation $% \left(\frac{1}{2}\right) =\frac{1}{2}\left(\frac{1}{2}\right) +\frac{1}{2}\left(\frac{1}{$

and therapeutic use)

IT Mammary gland, neoplasm

(carcinoma; indolinone derivative protein kinase inhibitor preparation and therapeutic use)

IT Blood vessel

(endothelium, endothelial cell proliferation; indolinone derivative protein kinase inhibitor preparation and therapeutic use)

IT Infection

(filariasis; indolinone derivative protein kinase inhibitor preparation and therapeutic use)

IT Angiogenesis inhibitors

Antitumor agents

Apoptosis

Cell proliferation

Cytotoxic agents

```
Human
     Neoplasm
        (indolinone derivative protein kinase inhibitor preparation and therapeutic
use)
IT
        (mammary; indolinone derivative protein kinase inhibitor preparation and
        therapeutic use)
     Endothelium
IT
        (microvascular, HDMEC cells, endothelial cell proliferation; indolinone
        derivative protein kinase inhibitor preparation and therapeutic use)
IT
        (microvessel, endothelium, HDMEC cells, endothelial cell proliferation;
        indolinone derivative protein kinase inhibitor preparation and therapeutic
use)
IT
     Phosphorylation, biological
        (protein; indolinone derivative protein kinase inhibitor preparation and
        therapeutic use)
IT
     Endothelium
        (vascular, endothelial cell proliferation; indolinone derivative protein
        kinase inhibitor preparation and therapeutic use)
IT
     163655-37-6P 328106-29-2P 384832-65-9P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (indolinone derivative protein kinase inhibitor preparation and therapeutic
use)
IT
     59-48-3D, Indolin-2-one, derivs.
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (indolinone derivative protein kinase inhibitor preparation and therapeutic
use)
               95-01-2, 2,4-Dihydroxybenzaldehyde
IT
                                                    351-54-2,
     3-Fluoro-4-methoxybenzaldehyde
                                     1971-81-9, 4-Dimethylamino-1-
     naphthaldehyde
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (indolinone derivative protein kinase inhibitor preparation and therapeutic
use)
IT
     79079-06-4, EGFR tyrosine kinase
                                        103843-29-4, IGF1-R kinase
     137632-09-8, ErbB2 receptor tyrosine kinase
                                                   144638-77-7, VEGFR-3 kinase
     148047-29-4, TIE2 receptor kinase
                                         150027-15-9, Gene FGFR1 tyrosine
              150977-45-0, VEGFR2 kinase
     kinase
                                           340830-03-7, Receptor tyrosine
     kinase
              372092-80-3, Protein kinase
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (inhibitors; indolinone derivative protein kinase inhibitor preparation and
        therapeutic use)
RE.CNT
              THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; WAHL; BAGARD: BULL SOC CHIM FR 1909, V4(5), P1038
(2) Bayer Ag; EP 0632102 A 1995 HCAPLUS
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     163655-37-6P 328106-29-2P 384832-65-9P
TT
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
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use)

(indolinone derivative protein kinase inhibitor preparation and therapeutic

RN 163655-37-6 HCAPLUS

CN 2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

RN 328106-29-2 HCAPLUS

CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

RN 384832-65-9 HCAPLUS

CN 2H-Indol-2-one, 3-[(3-fluoro-4-methoxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

L14 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:811951 HCAPLUS

DN 136:64633

ED Entered STN: 08 Nov 2001

TI Characterization of indolinones which preferentially inhibit VEGF-C and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2.

AU Kirkin, Vladimir; Mazitschek, Ralph; Krishnan, Jaya; Steffen, Anja; Waltenberger, Johannes; Pepper, Michael S.; Giannis, Athanassios; Sleeman, Jonathan P.

CS Forschungszentrum Karlsruhe, Institute of Genetics, Karlsruhe, D-76021,

SO | European Journal of Biochemistry (2001), 268(21), 5530-5540

jan delaval - 12 may 2005

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CODEN: EJBCAI; ISSN: 0014-2956
PB
     Blackwell Science Ltd.
     Journal
DT
     English
LΑ
     2-10 (Mammalian Hormones)
CC
     Section cross-reference(s): 3
     VEGF-C and VEGF-D are lymphangiogenic factors that bind to and activate
AB
     VEGFR-3, a fms-like tyrosine kinase receptor whose expression is limited
     almost exclusively to lymphatic endothelium in the adult. Processed forms
     of VEGF-C and VEGF-D can also activate VEGFR-2, a key player in the
     regulation of angiogenesis. There is increasing evidence to show that
     these receptor-ligand interactions play a pivotal role in a number of pathol.
                 Inhibition of receptor activation by VEGF-C and VEGF-D could
     therefore be pharmaceutically useful. Furthermore, to understand the
     different roles of VEGF-C, VEGF-D, VEGFR-2 and VEGFR-3 in pathol.
     situations it will be necessary to dissect the complex interactions of
     these ligands and their receptors. To facilitate such studies we cloned,
     sequenced and characterized the expression of rat VEGF-C and VEGF-D.
     showed that Cys152→Ser mutants of processed rat VEGF-C can activate
     VEGFR-3 but not VEGFR-2, while the corresponding mutation in rat VEGF-D
     inhibits its ability to activate both VEGFR-2 and VEGFR-3. We also
     synthesized and characterized indolinones that differentially block
     VEGF-C- and VEGF-D-induced VEGFR-3 kinase activity compared to that of
     VEGFR-2. These tools should be useful in analyzing the different
     activities and roles of VEGF-C, VEGF-D and their ligands, and in blocking
     VEGFR-3-mediated lymphangiogenesis.
     indolinone prepn inhibitor VEGF C VEGF D receptor activation; rat VEGF C
ST
     VEGF D cloning characterization
IT
     Phosphorylation, biological
     Signal transduction, biological
        (characterization of indolinones which preferentially inhibit VEGF-C
        and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)
IT
     Protein sequences
     Rattus norvegicus
     cDNA sequences
        (cloning, sequencing and characterization of rat VEGF-C and VEGF-D)
IT
     Adrenal gland
     Kidney
     Lung
     Mammary gland
     Ovary
     Spleen
     Tonque
     Tyson's gland
        (cloning, sequencing, characterization, and tissue distribution of rat
        VEGF-C and VEGF-D)
ΙT
     Lymphatic system
        (lymph vessel, endothelium; characterization of indolinones which
        preferentially inhibit the lymphangiogenic factors VEGF-C and
        VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)
IT
     Endothelium
        (lymphatic; characterization of indolinones which preferentially
        inhibit the lymphangiogenic factors VEGF-C and VEGF-D-induced
        activation of VEGFR-3 rather than VEGFR-2)
IT
     Kidney
     Lung
        (toxicity; cloning, sequencing, characterization, and tissue
        distribution of rat VEGF-C and VEGF-D)
     Vascular endothelial growth factor receptors
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
```

(type VEGFR-2; characterization of indolinones which preferentially inhibit VEGF-C and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)

- IT Vascular endothelial growth factor receptors
 - RL: BSU (Biological study, unclassified); BIOL (Biological study) (type VEGFR-3; characterization of indolinones which preferentially inhibit VEGF-C and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)
- IT 384965-73-5 384965-74-6
 - RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 - (amino acid sequence; cloning, sequencing and characterization of rat VEGF-C and VEGF-D)
- IT 144638-77-7, VEGFR-3 kinase 150977-45-0, VEGFR-2 kinase
 - RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (characterization of indolinones which preferentially inhibit VEGF-C
 and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)
- IT 188417-84-7, VEGF C 193363-12-1, VEGF-D
 - RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 - (characterization of indolinones which preferentially inhibit VEGF-C and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)
- IT 163655-37-6P 328106-29-2P 384832-65-9P
 - RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (characterization of indolinones which preferentially inhibit VEGF-C and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)
- IT 355108-88-2, GenBank AY032728 355108-89-3, GenBank AY032729
 - RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 - (nucleotide sequence; cloning, sequencing and characterization of rat VEGF-C and VEGF-D)
- RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD RE
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- IT 163655-37-6P 328106-29-2P 384832-65-9P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(characterization of indolinones which preferentially inhibit VEGF-C and VEGF-D-induced activation of VEGFR-3 rather than VEGFR-2)

RN 163655-37-6 HCAPLUS

CN 2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-dihydro-(9CI) (CA INDEX NAME)

RN 328106-29-2 HCAPLUS

CN 2H-Indol-2-one, 3-[(2,4-dihydroxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

RN 384832-65-9 HCAPLUS

CN 2H-Indol-2-one, 3-[(3-fluoro-4-methoxyphenyl)methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)

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L14 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
    1995:599524 HCAPLUS
AN
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DN 122:316911

Entered STN: 09 Jun 1995 ED

TI Dyes, their preparation, and bulk dyeing of plastics therewith.

ΙN Roschger, Peter

PΑ Bayer A.-G., Germany

Eur. Pat. Appl., 45 pp. so CODEN: EPXXDW

DTPatent

LΑ German

IC ICM C09B023-00

ICS C09B023-04; C09B023-10; C08K005-34; C08K005-15

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 38, 40

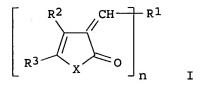
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ΡI	EP 632102	A1	19950104	EP 1994-109171	19940615
	EP 632102	B1	19970402		
	R: CH, DE, FR,	GB, LI			
	DE 4321420	A1	19950105	DE 1993-4321420	19930628
	DE 4340560	A1	19950601	DE 1993-4340560	19931129
	JP 07018586	A2	19950120	JP 1994-163334	19940623
	US 5626633	Α	19970506	US 1995-566317	19951201
PRAI	DE 1993-4321420	A	19930628		
	DE 1993-4340560	A	19931129		
	US 1994-263222	B1	19940621		

PATENT NO. CLASS		PATENT FAMILY CLASSIFICATION CODES
EP 632102	ICM	C09B023-00
	ICS	C09B023-04; C09B023-10; C08K005-34; C08K005-15
EP 632102	ECLA	C08K005/1535; C08K005/3415; C09B023/00D; C09B023/00S;
		C09B023/04; C09B023/10B
DE 4321420	ECLA	C08K005/1535; C08K005/3415; C09B023/00D; C09B023/00S;
		C09B023/04; C09B023/10B
DE 4340560	ECLA	C08K005/1535; C08K005/3415; C09B023/00D; C09B023/00S;
		C09B023/04; C09B023/10B
US 5626633	NCL	008/506.000; 008/512.000; 008/516.000; 008/565.000;
		008/568.000; 008/569.000; 008/574.000; 008/576.000;
		008/578.000; 008/579.000
	ECLA	C08K005/1535; C08K005/3415; C09B023/00D; C09B023/00S;
		C09B023/04; C09B023/10B

MARPAT 122:316911 os

GΙ



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AB
     The dyes I (n = 1, 2; R1 = aryl, heterocyclic group for n = 1 and direct
    bond or arylene for n = 2; R2, R3 = H, organic group: R2R3 = annellated ring;
     ; X = O, amino) are obtained from R1H or R1CH:Y (Y = O, amino compound) and
     the appropriate coreactant at 0-250°. Thus, 4-
     (dimethylamino) benzaldehyde was condensed with benzofuranone to give the
     dimethylaminobenzylidene derivative which could be used in the coloration of
     polystyrene.
ST
     dye plastic coloration
IT
     Polyamides, processes
     Polycarbonates, processes
     Polyesters, processes
     RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (dyes for bulk dyeing of plastics)
ΙT
    Dyes
        (for bulk dyeing of plastics)
IT
    Dyeing
        (bulk, of plastics)
IT
     1090-41-1P
                  3051-47-6P
                               3051-50-1P
                                            5812-07-7P
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     163655-39-8P
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     163655-44-5P
                    163655-45-6P
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     RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical
    process); TEM (Technical or engineered material use); PREP (Preparation);
     PROC (Process); USES (Uses)
        (dyes for bulk dyeing of plastics)
IT
     9002-89-5
                 9003-53-6, Polystyrene
                                          9003-54-7, Acrylonitrile-styrene
     copolymer
                 9011-14-7, PMMA 25038-54-4, Nylon 6, processes 25038-59-9,
     Poly(ethylene terephthalate), processes
                                             26284-39-9, Acrylonitrile-
    methacrylonitrile-styrene copolymer
    RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (dyes for bulk dyeing of plastics)
TT
     163655-48-9P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (intermediate; dyes for bulk dyeing of plastics)
IT
               87-41-2, 1(3H)-Isobenzofuranone 100-10-7
     4-Methoxybenzaldehyde, reactions
                                       591-12-8, \alpha-Angelicalactone
     2051-95-8, 3-Benzoylpropionic acid 4352-63-0, Naphtho[2,1-b]furan-2(1H)-
          4735-75-5
                      6050-80-2, Naphtho[1,2-b]furan-2(3H)-one
                                                                 19828-45-6
     31722-17-5
                  32438-34-9
                               80162-58-9
                                            96838-79-8
                                                         103893-13-6
    104094-17-9
    RL: RCT (Reactant); RACT (Reactant or reagent)
```

(starting material; dyes for bulk dyeing of plastics)

```
61-70-1P, 1-Methyl-2-indolone
IT
     59-48-3P
                                                92-14-8P, 4-(Diethylamino)-2-
    methylbenzaldehyde 623-27-8P, Terephthalaldehyde 1971-81-9P,
     4-(Dimethylamino)-1-naphthalenecarboxaldehyde 3446-89-7P,
     4-(Methylthio)benzaldehyde 14152-56-8P
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (starting material; dyes for bulk dyeing of plastics)
     163655-37-6P
TT
     RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical
    process); TEM (Technical or engineered material use); PREP (Preparation);
     PROC (Process); USES (Uses)
        (dyes for bulk dyeing of plastics)
     163655-37-6 HCAPLUS
RN
CN
     2H-Indol-2-one, 3-[[4-(dimethylamino)-1-naphthalenyl]methylene]-1,3-
     dihydro- (9CI) (CA INDEX NAME)
```

=> => d his

L8

```
(FILE 'HOME' ENTERED AT 12:14:44 ON 12 MAY 2005)
SET COST OFF
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FILE 'REGISTRY' ENTERED AT 12:17:03 ON 12 MAY 2005

SEL RN L1

L7 0 S E11-E13/CRN

FILE 'HCAOLD' ENTERED AT 12:19:07 ON 12 MAY 2005 0 S L6

FILE 'USPATFULL, USPAT2' ENTERED AT 12:19:11 ON 12 MAY 2005

L9 3 S L6

FILE 'HCAPLUS' ENTERED AT 12:19:15 ON 12 MAY 2005

L10 5 S L6

L11 1 S MAE87 OR MAE 87

L12 5 S L10,L11

L13 1 S L12 AND L1-L4

L14 5 S L12,L13

FILE 'REGISTRY' ENTERED AT 12:20:04 ON 12 MAY 2005

FILE 'USPATFULL, USPAT2' ENTERED AT 12:20:15 ON 12 MAY 2005

FILE 'HCAPLUS' ENTERED AT 12:20:28 ON 12 MAY 2005

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